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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/061,960	02/01/2002	Marco Falcioni	10555-034001 / 2002-004	8759

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EXAMINER

CLOW, LORI A

ART UNIT	PAPER NUMBER
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1631

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/061,960

Applicant(s)

FALCIONI ET AL.

Examiner

Lori A. Clow, Ph.D.

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4, 5, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-13 and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' arguments, filed 16 January 2007, have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1-22 are currently pending. Claims 4, 5, 14, and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 14 October 2005.

Claims 1-3, 6-13, and 16-22 are examined herein.

Information Disclosure Statement

The information disclosure statement filed 1/16/07 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because certain references lack a publication date. It has been placed in the application file, but the information referred to therein has not been considered in full as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11, 16-20, and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Note: The Examiner apologizes for incorrectly numbering the previous rejection and not including the appropriate claims in the rejection. Applicant's response has overcome the rejection with regard to claims 1-3 and 6-10. However, the rejection over claims 11 (and claims 16-20 and 22) is maintained. The rejection is re-iterated below and the office action is accordingly made non-final.

The computer program product of the instant claims encompasses instructions for generating a library design for a set of experiments. The claims, as a whole, do not produce a result which is concrete, tangible, and useful. The claims merely encompass *in silico* manipulations with no **specific** output that meets the concrete, tangible, and useful criteria. The method of merely defining a library, defining a plurality of sources, receiving inputs and generating electronic data does not set forth a **specific** outcome such that the steps produce a result that is immediately concrete, tangible, and useful. The claims must, **as a whole**, satisfy section 101 and must be for practical application, which can be defined as:

1. The claimed invention "transforms" and article or physical object to a different state or thing.

*[The claimed invention in the instant case does not **transform** any physical object or article. The generating a design step does not meet the criteria a physical transformation of the instant method steps.]*

Art Unit: 1631

2. The claimed invention otherwise produces a useful, concrete, and tangible result, based upon various factors (see below) [*The claimed invention in the instant application does not produce a concrete, tangible, and useful result*].

In the instant claims the “program product” constitutes nonfunctional descriptive material, as no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e. abstract ideas, stored in a computer-readable medium, in a computer, does not make the claims statutory. Further, data structures, as in a “program” are descriptive material, *per se* and are not statutory because they are not capable of causing a functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Computer programs are viewed as computer listings, *per se*, i.e., the description or expression of the programs, are not physical things. They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and the other claimed elements of a computer that permit that computer program’s functionality to be realized.

This rejection could be overcome by amending the claims to recite that a result of the method is “displayed” or “outputted” (e.g. output to a user, a display, a memory, or another computer, etc.), or by amending the claims to include a step of a physical transformation of matter (e.g. assay). For an updated discussion of statutory considerations with regard to non-functional descriptive material and computer-related inventions, see the Guidelines for Patent Eligible Subject Matter in the MPEP 2106, Section IV.

Applicant is invited to view the following web site for the text of the new Interim Guideline guidelines of November 2005:

http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

Response to Applicant's Arguments

Applicant argues that the claims have been amended to specify that the library design is used to perform a set of experiments. While this is persuasive for claims 1-3 and 6-10, as stated above, this is not persuasive for claims 11, 16-20, and 22, as claim 11 has not been amended in a similar fashion. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-13, and 16-22 remain rejected under 35 U.S.C. 102(b) as being rejected by WO 00/23921 (27 April 2000; Lacy et al.; PTO 1449 Reference), for the reasons set forth in the previous Office Action and re-iterated below.

The instant claims are drawn to a computer-implemented method for generating a library design for a set of experiments comprising defining a library array representing an arrangement of experiments in the set of experiments.

In regard to claim 1, Lacy teaches a computer-implemented method and program for generating a library design for a combinatorial library of materials. The library design includes a set of sources representing components to be used in preparing the combinatorial library, destinations representing arrangements of cells and mappings, defining one or more distribution patterns for assigning components to cells in the destination arrangement or arrangements (see abstract).

In regard to claim 2, the invention provides for outputs, in the form of display (abstract and page 5, lines 8-11).

In regard to claim 3, Lacy teaches visual representation of a portion of compositions (page 5, lines 8-11; page 27, lines 21-29).

In regard to claim 6, Lacy teaches mathematical relationships for determining amounts of corresponding source (abstract; page 15, lines 27-31; page 21, lines 21-31 to page 22, lines 1-9).

In regard to claim 7, Lacy teaches mapping of a first group (page 3, lines 7-20).

In regard to claim 8, Lacy teaches mapping of a second group (page 4, lines 10-26).

In regard to claim 9, Lacy teaches a function whereby a source and destination map may be redefined or recalculated, encompassing the remove map defining an amount to be removed (page 4, lines 17-20).

In regard to claim 10, Lacy teaches sources that are defined to interact (page 15, lines 27-31 to page 16, lines 1-7).

In regard to claims 11-13, and 16-22, Lacy teaches that computer program product encompassing all of the limitations recited above in claims 1-3 and 6-10. The program product is taught in the abstract and at page 7, beginning line 8).

Response to Applicant's Arguments

Applicant states that it is agreed that “Lacy discloses computer-implemented methods and computer program products for generating library designs that include sources representing components to be used in preparing a library and map that define distribution patterns for assigning those components to library elements”. However, Applicant contends that “claim 1 of the present application expressly recites that the amounts of sources to be applied to the library elements as specified in the generated library design are defined at least in part by the order of maps in the mapping sequence”.

This is not persuasive. Firstly, Applicant agrees that Lacy teaches that the map define distribution patterns for assigning components to library elements. Secondly, Lacy clearly teaches the following at least at page 3, lines 6-20:

*In general, in one aspect, the invention features a computer-implemented method for generating a library design for a combinatorial library of materials. The method includes defining one or **more sources** and one or more destinations, receiving an input defining a first mapping, using **the first mapping to calculate a composition of one or materials assigned to one or more of cells** of the destination, and generating a data file defining the library design. Each source is electronic data representing a component to be used in preparing the combinatorial library. Each destination is electronic data representing an arrangement of cells. The first mapping is electronic data defining a distribution pattern for assigning a component to cells in the arrangement. **The distribution pattern includes a minimum and a maximum amount of the component to be assigned to any cell of the arrangement and a gradient to be applied between the minimum and maximum amounts of the component across the cells. The data file includes electronic data representing the sources, the destinations and the mapping.***

Therefore, Lacy teaches that the order (distribution) of maps defines amounts of sources to be applied to the library.

Art Unit: 1631

No claims are allowed.

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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April 1, 2007

Lori A. Clow, Ph.D.

Art Unit 1631

Lori A. Clow
Patent Examiner